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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/624,777	07/25/2000	Gregory Kellogg	95,1408-CCC	7224

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MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER
LUDLOW, JAN M

ART UNIT	PAPER NUMBER
1743	

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/624,777	KELLOGG ET AL	
	Examiner	Art Unit	
	Jan M. Ludlow	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4/29/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) *5 and 6* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 July 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/4*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Applicant's election with traverse of group I in the reply filed on April 29, 2004 is acknowledged. The traversal is on the ground(s) that there is no undue burden in examining plural inventions having the same classification. This is not found persuasive because the inventions have different features requiring different search terms in electronic searching, with the concomitant analysis of different references and presentation of different examination issues, which is a significant burden to the examiner, especially given the detailed nature of the invention and art.

The requirement is still deemed proper and is therefore made FINAL.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the combination of an entry port and first channel as claimed in claim 1 communicating with the first chamber A as shown in Figure 3 must be shown or the feature(s) cancelled form the claims. Therefore, the combination of parts a-e and f-i of claim 3 must be shown or the feature(s) canceled from the claim(s). Therefore, each of the microchannels and the fluid chambers having air displacement channels for venting to the surface of claims 3 and 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Note that Figure 13, showing the embodiment of Claim 1, lacks an entry port and first channel.

Note that the disclosure teaches that the sample chamber A of figure 13 could be supplied by a metering system like that of figure 12, but it is unclear how the two systems would be superimposed in that placement of the overflow chamber (D in figure

12) distal of the sample chamber (E in figure 12, A in figure 13) would require crossing the overflow capillary (C in figure 12) with one of capillaries F or G of figure 13.

Note that Figure 13, showing the embodiment of claim 1, shows ONE air displacement channel (H), not one for each channel and chamber.

3. Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

4. There is no description of where and how an inlet port and first channel would be connected to chamber A in Figure 13. There is no description of where or how **each** channel and chamber would have an air displacement channel, as found at the end of claims 1 and 3. The combination claimed in claims 3-4 is not described in such a way as to enable one skill ed in the art to practice the invention. Elements a-e are described in Example 2 and figure 12. Elements f-l are described in example 3 and figure 13 and a suggestion to combine the two is made at page 46, lines 14-17, were it is alleged that such combination is within ordinary skill, but no direction as to how to achieve the combination is given. The examiner notes that superimposing figure 12 on figure 13 by matching chamber E of figure 12 to chamber A of figure 13 is not possible because the overflow capillary C of figure 12 crosses capillary F of figure 13.

5. Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one

skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

6. There is no description of where and how an inlet port and first channel would be connected to chamber A in Figure 13. There is no description of where or how **each** channel and chamber would have an air displacement channel, as found at the end of claims 1 and 3. The combination claimed in claims 3-4 is not described in such a way as to enable one skill ed in the art to practice the invention. Elements a-e are described in Example 2 and figure 12. Elements f-I are described in example 3 and figure 13 and a suggestion to combine the two is made at page 46, lines 14-17, were it is alleged that such combination is within ordinary skill, but no direction as to how to achieve the combination is given. The examiner notes that superimposing figure 12 on figure 13 by matching chamber E of figure 12 to chamber A of figure 13 is not possible because the overflow capillary C of figure 12 crosses capillary F of figure 13.

7. Claims 1-4 are objected to because of the following informalities: In claim 1, part h) line 1, and claim 3, part i), line 1, "second" should be "third". In claim 1, part h), line 6, and claim 3, part i), line 6, "second" should be "first". Appropriate correction is required.

8. Applicant is requested to carefully review the disclosure and claims for any additional errors of this nature. The above changes make the claims correspond to the embodiment of Figure 13. The first correction remedies an obvious error, and the second corrects the claim in that the channel connecting the third (C) and second (B) chambers as described corresponds to channel H which is an air displacement channel,

not channel G which is the fluid transfer channel corresponding in function to the third channel as claimed (connecting the first and third chambers for displacement of the sample form A to C).

9. Claims 1-2 and 5-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 3, part c, "capillaries define a cross-sectional area ...diameter" is unclear--is limitation to round capillaries intended? In claims 1 and 3, part d, line 1, "the surface of the platform" lacks clear antecedence because first and second surfaces have been recited and it is unclear which one is intended. See also the last line of claims 1 and 3. In claim 3, part e, line 3, "the holding channel" lacks antecedence basis--is the first fluid chamber intended? See also claim 3, line part e, after "wherein...". In claim 3, after part e, in the line beginning "wherein", "the junction" lacks clear antecedence. In claim 6, part d, line 2, "through the displacement fluid" is unclear.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kopf-Sill ('702) teaches a rotor and method of use. An entry port 26 is in fluid communication with a capillary 34, 36, 42 (instant first channel) which is connected to a first fluid chamber 50. A second displacement fluid chamber 64 is coupled to the first chamber 50 via second channel 84. Fluid displaced from chamber 50 is moved to third fluid chamber 98,100 via third channel 88. See, e.g., figure 1 and figures 10-15. A sample of 50-200 ul is used and capillary depths of .3 and .6 mm are employed in the

specific example (col. 7, lines 10, 61-62). Vents are provided throughout the device ("x" in figure 2). However, the inlet and outlet of the third channel are opposite the positions claimed. That is, flow is from an inlet outward toward the outlet, whereas in the instant claims and as shown in Figure 13, in the instant third channel, flow is inward from the inlet of the third channel (junction of channel G and chamber A) to the outlet (junction of channel G and chamber C).

Schembri ('193) teaches a rotor and method of use. An entry port 5 is in fluid communication with an overflow capillary 13 and a metering capillary 7. The overflow capillary is in communication with an overflow chamber 11 and the metering capillary 7 is connected to a first fluid chamber 15. A displacement fluid chamber 39 is coupled to the first chamber 15 via channels 41. Fluid displaced from chamber 15 is moved to third fluid chamber 31 via channel 33. See, e.g., figures 1-3 and col. 7, especially, lines 24, 51, and col. 8. Capillary dimensions of .05-.25 mm are employed in the specific example (col. 7, lines 45-46). With respect to curved proximal channel ends, the capillaries have gradual sloped sides as seen in the figures. With respect to air displacement channels, it is the examiners position that port 19 and or passage 33 permit air flow (col. 8, lines 20-25). However, the inlet and outlet of the third channel are opposite the positions claimed. That is, flow is from an inlet outward toward the outlet, whereas in the instant claims and as shown in Figure 13, in the instant third channel, flow is inward from the inlet of the third channel (junction of channel G and chamber A) to the outlet (junction of channel G and chamber C).

Braynin et al. ('606) teach a rotor and method of use. An entry port 22 is in fluid communication with an overflow capillary 46 and a metering capillary 40. The overflow capillary is in communication with an overflow chamber 44 and the metering capillary 40 is connected to a first fluid chamber 60. A displacement fluid chamber 80 is coupled to the first chamber 60 via channel 82. Fluid displaced from chamber 60 is moved to third fluid chamber 92 via channel 94. Samples of .005-.03 ml are used (col. 4, line 15). Capillary dimensions of .1- 1 mm are employed in the specific example (col. 6, lines 50-55). With respect to curved proximal channel ends, the capillaries have gradual sloped sides as seen in the figures. With respect to air displacement channels, vent ports (e.g., 24, 26, 28, 30) are provided. However, the inlet and outlet of the third channel are opposite the positions claimed. That is, flow is from an inlet outward toward the outlet, whereas in the instant claims and as shown in Figure 13, in the instant third channel, flow is inward from the inlet of the third channel (junction of channel G and chamber A) to the outlet (junction of channel G and chamber C).

Schembri ('643) teaches a channel 134 having an inlet outward of the outlet as in the instant claim, but fails to teach or suggest the fluid displacement feature of the instant claims. There is no motivation to combine Schembri ('643) with the preceding references.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jan M. Ludlow whose telephone number is (571) 272-1260. The examiner can normally be reached on Monday-Thursday, 11:30 am - 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jan M. Ludlow
Primary Examiner
Art Unit 1743

Jml
July 9, 2004